

REMARKS

Applicant thanks the Examiner for the attention accorded the present Application in the February 21, 2003 Advisory Action, in which claims 1-34 were pending. In the Advisory Action, it was noted that the amendments filed in response to the Final Office Action will not be entered because they raise new issues that would require further consideration and/or search, and because changing the Markush group of A to only Si, Ge, Ti, and Ga changes the scope of the claims which would require further search and/or considerations.

In the Final Office Action, claims 1-5, 9, 10, 12, 15-19, 22 and 23 were rejected under 35 U.S.C. § 102(b) as being anticipated by Sullivan et al.; claims 6, 14 and 24-26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sullivan and further in view of Awad; claims 7-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sullivan and further in view of Awad and Matsuno et al.; claims 10-11 and 20-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sullivan; and claims 27-34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sullivan and further in view of Grunwald.

By the foregoing amendment, claims 1, 6, 16, 23, 24 and 27 have been amended to more clearly specify the present invention. Specifically, these claims have been amended to clarify that the acid of this invention comprises the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6. No new matter has been added, in fact this Markush group has been further limited, and the amendment and new claims are fully supported throughout the specification, as more fully described below.

Claims 1-34 are now currently pending in this Application. Based on the above amendments, Applicant respectfully submits that the rejections to claims 1-34 have been overcome. Reconsideration of this Application, and allowance of pending claims 1-34, is respectfully requested in view of the foregoing amendments and the following remarks.

35 U.S.C. § 102(b) rejections

Claims 1-5, 9, 10, 12, 15-19, 22 and 23 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Sullivan. Applicant respectfully disagrees with the Examiner's conclusion and submits that the present invention is not anticipated, nor even suggested, by Sullivan.

As presently claimed in Applicant's independent claims, Applicant's invention comprises "[a] method for removing an oxide material from a surface of a substrate or a coating disposed on the substrate ... [by utilizing] an acid having the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6."¹ In fact, all of Applicants' independent claims utilize "an acid having the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6."²

In contrast, Sullivan does not disclose removing an oxide material or a coating from a surface of a substrate using an acid having the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6. Sullivan discloses a two constituent stripping composition for removing an outer coat, an intermediate coat, and a bond coat from nickel-based substrates. The two constituents are sulfuric acid (H_2SO_4) and a water-soluble nitro-substituted compound (i.e., nitrobenzene sodium sulfonate). Neither of these constituents is used in the Applicant's invention. Sullivan does state on page 2, lines 46-50 that "[a]nother constituent of the bath which although not essential is highly preferred, is the addition of a soluble fluorine-containing species, most preferably fluoroboric acid, HBF_4 , but other fluorine containing species, e.g., HF, NH_4F_2 , Na_3AlF_6 et al, that can disassociate in aqueous solution to generate low fluoride ion concentrations, are particularly suitable." Contrary to the Examiner's analysis of what is taught by Sullivan, what Sullivan actually teaches is that a possible constituent claimed by the Applicant is not even essential. The Examiner mischaracterizes the actual facts by stating that Sullivan teaches using H_xAF_6 for removing oxide material (wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6). The sulfuric acid and the oxidizing compounds are the heart of Sullivan's invention. Therefore, Sullivan does not

¹ Applicants' spec., independent claim 1 (emphasis added).

anticipate, nor even suggest, utilizing any of the acids recited in independent claims 1, 23, 24 and 27 of Applicant's invention.

Based on the above arguments, Applicant respectfully submits that independent claims 1 and 23 of the present invention are patentably distinguished from Sullivan. As claims 2-5, 9, 10, 12, 15-19 and 22 depend from claim 1, the discussion above applies to these claims as well. Furthermore, these claims each include separate novel features. Thus, Applicant respectfully requests allowance of pending claims 1-5, 9, 10, 12, 15-19, 22 and 23.

35 U.S.C. § 103(a) rejections

1. Rejection of claims 6, 14 and 24-26

Claims 6, 14 and 24-26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sullivan in view of Awad. Applicant respectfully disagrees with the Examiner's conclusion and submits that the present invention is not obvious in view of, nor is it even suggested by, Sullivan and/or Awad.

As previously discussed above, and as presently claimed in Applicant's independent claims 1 and 24, Applicant's invention comprises a method for removing an oxide material or a coating from a surface of a substrate using an acid having the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6.³

In contrast, and as also previously discussed above, Sullivan does not disclose removing an oxide material or a coating from a surface of a substrate using an acid having the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6.

Awad fails to cure the deficiencies of Sullivan. Awad does not disclose removing an oxide material or a coating from a surface of a substrate using an acid having the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6 either. Awad discloses a *multistep* chemical treatment to *condition*

² Applicants' spec., independent claims 1, 23, 24 and 27 (emphasis added).

³ Applicant's spec., independent claims 1 and 24.

a metal surface,⁴ not a *single step removal* process as claimed in Applicant's invention. Furthermore, Awad discloses using a composition having a phosphate degreasing detergent (A), a water soluble salt (B), an etching acid (C), a chelating agent (D), and a nonionic soap (E). Fluorozirconic acid, H_2AZrF_6 , is mentioned as a component that fulfills the function of (B) and (C) for cleaning aluminum surfaces used in printing. However, Applicant is not claiming fluorozirconic acid, nor (A), (B), (C), (D) and (E). Thus, Awad does not disclose, nor even suggest, removing an oxide material or a coating from a surface of a substrate using an acid as recited in independent claims 1 and 24 of Applicant's invention.

Based on the above arguments and amendments, Applicant respectfully submits that independent claims 1 and 24 of the present invention are patentably distinguished from Sullivan and Awad. As claims 6 and 14 depend from claim 1, and claims 25-26 depend from claim 24, the discussion above applies to these claims as well. Furthermore, these claims each include separate novel features. Thus, Applicant respectfully requests allowance of pending claims 6, 14 and 24-26.

2. Rejection of claims 7-8

Claims 7-8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sullivan in view of Awad and Matsuno. Applicant respectfully disagrees with the Examiner's conclusion and submits that the present invention is not obvious in view of, nor is it even suggested by, Sullivan, Awad and/or Matsuno.

As previously discussed above, and as presently claimed in Applicant's independent claim 1, Applicant's invention comprises a method for removing an oxide material or a coating from a surface of a substrate using an acid having the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6.⁵

In contrast, and as also previously above, Sullivan and Awad do not disclose removing an oxide material or a coating from a surface of a substrate using an acid having the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6.

⁴ Awad, col. 1, line 56 to col. 2, line 56 (emphasis added).

⁵ Applicant's spec., independent claim 1.

Matsuno fails to cure the deficiencies of Sullivan and Awad. Matsuno does not disclose removing an oxide material or a coating from a surface of a substrate using an acid having the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6 either. Matsuno mentions that when etching silicon oxide with compounds like NH_4F_2 , H_2SiF_6 may be formed. However, Matsuno does not teach that H_2SiF_6 can be used to clean turbines that have spinels of $Ni(Cr,Al)_2O_4$ and $Co(Cr,Al)_2O_4$. Thus, Matsuno does not disclose, nor even suggest, removing an oxide material or a coating from a surface of a substrate using an acid as recited in independent claim 1 of Applicant's invention.

Based on the above arguments and amendments, Applicant respectfully submits that independent claim 1 of the present invention is patentably distinguished from Sullivan, Awad and Matsuno. As claims 7-8 depend from claim 1, the discussion above applies to these claims as well. Furthermore, these claims each include separate novel features. Thus, Applicant respectfully requests allowance of pending claims 7-8.

3. Rejection of claims 10-11 and 20-21

Claims 10-11 and 20-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sullivan. Applicant respectfully disagrees with the Examiner's conclusion and submits that the present invention is not obvious in view of, nor is it even suggested by, Sullivan.

As previously discussed above, and as presently claimed in Applicant's independent claim 1, Applicant's invention comprises a method for removing an oxide material or a coating from a surface of a substrate using an acid having the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, Al, and Ga; and x is 1-6.⁶

In contrast, and as also previously discussed above under the 35 U.S.C. §102(b) rejections, Sullivan does not disclose removing an oxide material or a coating from a surface of a substrate using an acid having the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6.

⁶ Applicant's spec., independent claim 1.

Based on the above arguments and amendments, Applicant respectfully submits that independent claim 1 of the present invention is patentably distinguished from Sullivan. As claims 10-11 and 20-21 depend from claim 1, the discussion above applies to these claims as well. Furthermore, these claims each include separate novel features. Thus, Applicant respectfully requests allowance of pending claims 10-11 and 20-21.

4. Rejection of claims 27-34

Claims 27-34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sullivan in view of Grunwald. Applicant respectfully disagrees with the Examiner's conclusion and submits that the present invention is not obvious in view of, nor is it even suggested by, Sullivan and/or Grunwald.

As previously discussed above, and as presently claimed in Applicant's independent claims 1 and 27, Applicant's invention comprises a method for removing an oxide material or a coating from a surface of a substrate using an acid having the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6.⁷

In contrast, and as also previously discussed above, Sullivan does not disclose removing an oxide material or a coating from a surface of a substrate using an acid having the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6.

Grunwald fails to cure the deficiencies of Sullivan. Grunwald does not disclose removing an oxide material or a coating from a surface of a substrate using an acid having the formula H_xAF_6 , or precursors to said acid, wherein A is selected from the group consisting of Si, Ge, Ti, and Ga; and x is 1-6 either. Grunwald discloses a method to de-smut an aluminum surface using a dry persulfate treatment.⁸ Applicant's invention is not de-smutting anything. Thus, Grunwald does not disclose, nor even suggest, removing an oxide material or a coating from a surface of a substrate using an acid as recited in independent claims 1 and 27 of Applicant's invention.

⁷ Applicant's spec., independent claims 1 and 27.

⁸ Grunwald, Title of Invention.

The Examiner cites Tattinclair 108 USPQ 125 (CCPA 195) to support the argument that it is immaterial whether oxide is removed first. In fact, if the material being removed is reactive, as was the case with Matsuno (the oxide is SO_2), then the order is *very* important. For this reason it is imprudent to assume that a process having multiple steps (i.e., Grunwald) can be applied to a method having one step (Applicant).

Based on the above arguments and amendments, Applicant respectfully submits that independent claims 1 and 27 of the present invention are patentably distinguished from Sullivan and Grunwald. As claims 28-33 depend from claim 27, and claim 34 depends from claim 1, the discussion above applies to these claims as well. Furthermore, these claims each include separate novel features. Thus, Applicant respectfully requests allowance of pending claims 27-34.

CONCLUSION

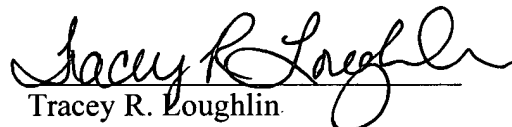
Applicant respectfully submits that the amendments to the claims, together with the arguments presented herein, successfully traverse the rejections and objections given by the Examiner in the Final Office Action. For the above reasons, it is respectfully submitted that the claims now pending patentably distinguish the present invention from the cited references. Allowance of pending claims 1-34 is therefore respectfully requested.

As this request for continued examination ("RCE") is being timely filed within 3 months of the mailing date of the Final Office Action, Applicants believe that there is no fee due for this response except for the payment of the RCE filing fee. Payment in the amount of \$750 is enclosed therefor. If this amount is incorrect, however, the Commissioner is authorized to charge any additional fees that may be due, or credit any overpayment, to **Deposit Account No. 04-1448**.

Should the Examiner have any questions, or determine that any further action is necessary to place this Application into better form for allowance, the Examiner is encouraged to telephone the undersigned representative at the number listed below.

Respectfully submitted,

Date: 3/5/03


Tracey R. Loughlin
Attorney for Applicant
Registration No. 51,969

Dougherty, Clements & Hofer
1901 Roxborough Road, Suite 300
Charlotte, NC 28211
704-366-6642 Telephone
704-366-9744 Facsimile